

REMARKS

Receipt of the Office Action of August 14, 2003 is gratefully acknowledged.

A proposal to amend Figure 1 is being submitted herewith in a Letter to the Official Draftsman. Upon the Examiner's approval, the formal drawing of Figure 1 will be amended to identify the evaluation electronics of Fig. 1 with the reference numeral 22 rather than 2.

Claims 19 - 34 and 37 - 39 are withdrawn from consideration as being drawn to a "nonelected invention," while claim 42 is rejected as indefinite under 35 USC 112, second paragraph because of the recitation of "said static pressure" in line 2, and claims 1, 3-9, 11-18, 35 and 40-44 are rejected over art.

With regard to claim 42, "said static pressure" has been changed to "static pressure" thereby eliminating the indefiniteness rejection

The art rejections are specifically: (1) claims 1, 3-7, 9, 11-15, 35 and 40 as anticipated by Nabity et al under 35 USC 102(b); (2) claims 8 and 16 as unpatentable under 35 USC 103(a) over Nabity et al in view of Meijer; (3) claims 17 and 18 as unpatentable under 35 USC 103(a) over Nabity et al; and (4) claims 41-44 as unpatentable under 35 USC 103(a) over Nabity et al.

These rejections are respectfully traversed.

Before considering the noted art rejections, it should first be noted that claims 2, 10 and 36 are not rejected either under 35 USC 112 or over art. It is presumed, therefore, that these claims would be allowed. Confirmation of this conclusion is respectfully requested.

Regarding Nabity et al, it should be noted that they *only* disclose a measuring arrangement (12, 14) with a piezoelectric sensor which senses *any changes* in strain of the flow vessel (20). If the apparatus works under steady-state conditions or under non-disturbed conditions, these changes in strain may correspond, however, with *any changes* in pressure, *but not necessarily with the static pressure per se*.

Since pressure pulses within the drawn fluid will be sensed by a piezoelectric sensor, the sensor signal does not correspond with a static or an instantaneous pressure within the fluid, but only with *changes in pressure*. In other words, the sensor disclosed by Nabity et al *cannot* sense directly any *static and/or any instantaneous pressure* within the fluid and, thus, the measuring arrangement *cannot* directly measure the sample volume from the sensor signal. In order to measure the instantaneous pressure correctly, the measuring arrangement as disclosed by Nabity et al would have to integrate the sensor signal, i.e., it would have to count the pulses in the sensor signal. In addition, however, this measuring arrangement has to monitor all parameters which could affect the “span” and “zero” of the transfer function from pressure pulses to sample volume. Such parameters may be, for instance, suction head or filling level, etc.

In contrast, such parameters used by the arrangement of the present invention to estimate the sample volume or to monitor the current status of the sampler could also be derived directly from the sensor signal (see page 19, line 14 - page 20, line 29 of the present application). This fact facilitates the realization of the set-up for the apparatus in a very accurate and very user-friendly manner. Beyond that, the sensor according to the present invention provides the evaluation electronic with more direct information about instantaneous pumping states. The evaluation electronics as disclosed by Nabity et al does not and could not derive such condition

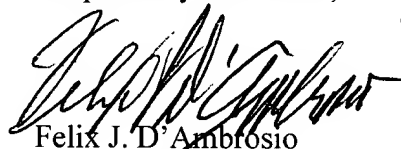
information from its sensor signal.

An example of measuring a pulsative flow may be found in the field of monitoring human blood flow. If one senses a persons pulse with a finger and a watch, one does not measure the blood pressure, instead one counts the pulses to measure the heart rate. That is basically all that the measuring arrangement as disclosed by Nabity et al does. But, in order to determine any pressure values represented by the blood pressure (systole, diastole), one would have to use a stethoscope in connection with a pressure sleeve, but not count the pulses because the detected pulses do not provide any information about the static pressure within the blood circuit.

The sensor arrangement disclosed by Nabity et al clearly uses a *strain sensing device*, which is not a pressure sensor. Pulses are measured (see col. 2, lines 30 - 35). Therefore, for this reason alone, Nabity et al cannot anticipate any of the claims which recite a pressure sensor

In view of the foregoing, reconsideration and reexamination are respectfully requested, and claims 1-18, 35, 36 and 40-44 found allowable.

Respectfully submitted,


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